The High Performance Partnership framework as value chain enhancer

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- May 2010 -

Table of contents

INTRODUCTION

To maximize performance and profit an organization should not restrict its focus to the internal organization but also focus on optimizing the value chain. Value chain optimization consists of integrating all volume and value decisions, in order to maximize profits across the entire value chain. An optimized value chain stands for the long-term vision of managing profitability, volume flows and services for all parties in the chain in a future-oriented manner. To get to the point of value chain optimization, the organization has to go through three stages: function optimization, supply chain optimization, and value chain optimization (Figure 1).
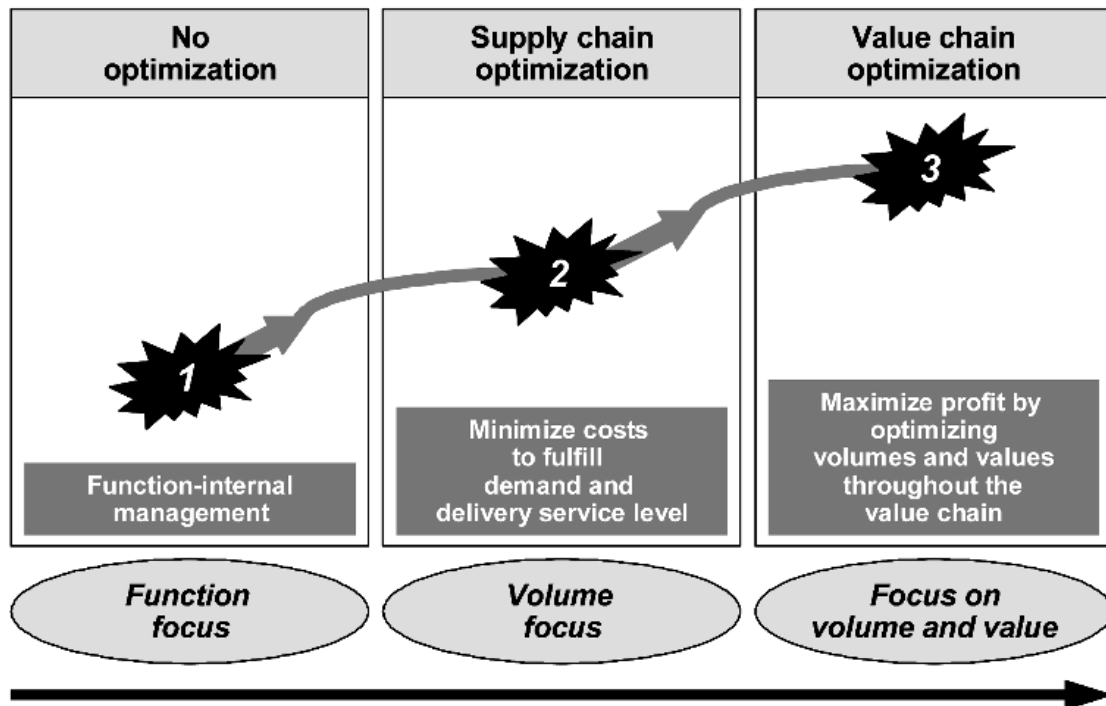

Figure 1: The value chain evolutionary model (Schulz et al., 2007)

In the first stage of the value chain evolutionary model, the focus is on the internal management of primary and secondary functions such as production, logistics, procurement, marketing and sales. In this stage an organization is focused mainly on optimizing effectiveness and efficiency within the boundaries of the organization itself. In the second stage the organization focuses on supply chain management. Supply chain management has the objective to deliver high quality service levels and minimize the supply chain costs, and thereby meeting customer demand. To make the supply chain process more efficient the organization has to implement a decision-making approach in regard to production and distribution volumes which includes the suppliers and customers of the organization. However, without an overall inclusive approach which also includes collaboration in the value chain of the secondary functions, the organization will not be able to produce in the most efficient and effective way. Therefore, in stage three the organization focuses on optimization of the entire value chain which entails collaborating on production and distribution volumes and on the whole scale of primary and secondary functions, to maximize quality and organizational profit.

In order to obtain the full potential of the value chain, it makes sense that each party in the chain strives to become an High Performance Organization (HPO) and that the collaboration between the parties in the chain is also of a high performance nature. A high performance organization is defined as an organization that achieves financial and non-financial results that are better than those of its peer group over a period of time of at least five to ten years (De Waal, 2007). When an organization is transforming into an HPO, at some point the quality of the value chain becomes important. After all, when the partners of the organization, its suppliers and customers, are not HPOs themselves, the potential quality of the end product or service as delivered by the HPO will be partly or completely be annulled by the bad quality of the partners in the chain. The result is that the end customer (the consumers) will never be serviced optimally. From previous research into the value chain of the diamond industry, De Waal et al. (2009) found that a difference in an organization's HPO status, compared to its partner organizations, could influence the quality of the value chain. These researchers suggested that having a lower HPO status than the partner could have a negative influence on the effectiveness of the partnership. In other words, the low performance of one partner can work deter on the performance of the other partner. At the same time, an improvement in organization 1 can foster an improvement in organization 2. However, to enjoy the latter it is important that the partners use a collaborative approach in their continuous improvement efforts, and act in favor of mutual rather than individual benefits. Therefore it is important that not only the quality of the organization itself but also of its partners is of the highest level. This means that it is not enough if all parties in the value chain become HPO, the links in the chain also need to become HPO: a high performance partnership (HPP) has to be created (Figure 2).
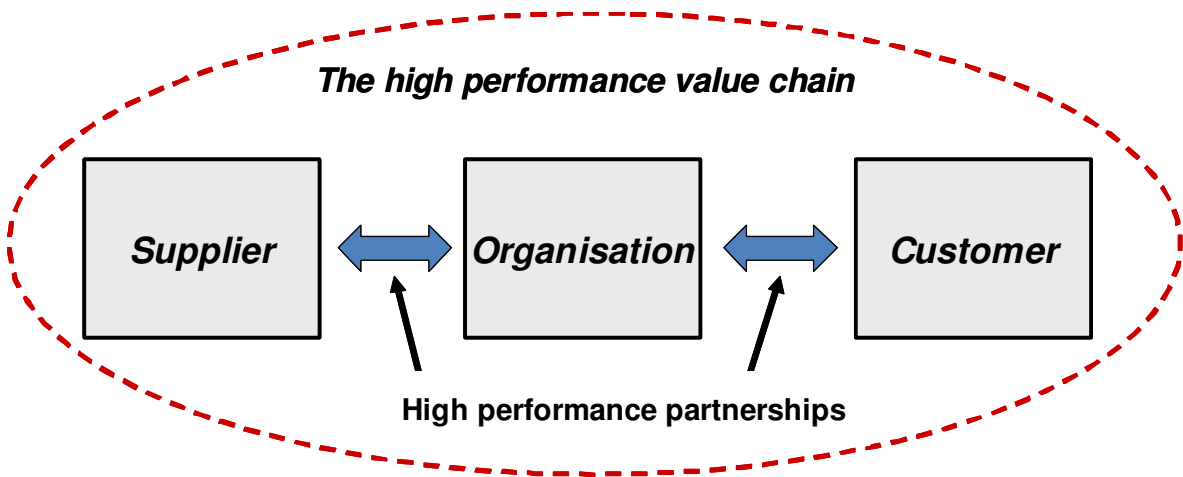

Figure 2: The high performance value chain

This article describes the development of the HPP framework, which makes it possible to create the desired high performance partnerships. In the next section the HPO framework, which forms the basis of the HPP framework, is briefly described. In the section thereafter an extended discussion of the theoretical foundation

of the HPP framework is given. This framework is then tested at ATLAS, a British partnership of five leading IT suppliers which is charged with upgrading the IT infrastructure of the British Ministry of Defence. The results of the application of the HPP framework in such a complicated environment are evaluated and the HPP framework is finalized. The last section gives the practical implications of the research for management.

THE HPO FRAMEWORK

The HPP builds on the high performance organization (HPO) research. There have been many publications on HPOs but none of these have led to a unified theory, model or framework (see for an overview: De Waal, 2010). An attempt to unify the HPO literature was made by De Waal (2008, 2010), by conducting a meta-analysis of over 290 academic and practitioner publications on high performance. This meta-analysis yielded a definition of an HPO: "A high performance organization is an organization that achieves financial and non-financial results that are better than those of its peer group over a period of time of at least five to ten years." Then for each of the 290 academic and professional studies found, those elements that the authors indicated as being important for becoming a HPO were identified. Because authors used different terminologies, the identified elements were grouped into categories which therefore constituted potential HPO characteristics. For each of the potential HPO characteristics the 'weighted importance' was calculated, i.e. the number of times that a characteristic occurred in the studies. Finally, the characteristics with the highest weighted importance were selected as the HPO characteristics. These characteristics were subsequently included in a HPO survey which was administered worldwide and which encompassed more than 3200 respondents from 2500 organizations. In this survey the respondents were asked to indicate how good they thought their organizations were performing on the HPO characteristics (on a scale of 1 to 10) and also what their organizational results were compared to their peer group. These subjective measures of organizational performance are scientifically proven indicators of real performance. By performing a non-parametric Mann-Whitney test, 35 characteristics which had the strongest correlation with organizational performance were extracted and identified as the HPO characteristics. The correlation was as expected: the high-performing group scored higher on the 35 HPO characteristics than the group with lower performances. This means that organizations which pay more attention to these 35 characteristics achieve better results than their peers, in every industry, sector and country in the world. Conversely, organizations which score low on the characteristics rank performance-wise at the bottom of their industry. Subsequently, a principal component analysis with oblimin rotation of the 35 characteristics resulted in five distinct HPO factors. These five HPO factors are described underneath. Appendix 1 describes the HPO research in more detail.

The five HPO factors are:

1. *Management Quality*. In an HPO, belief and trust in others and fair treatment are encouraged. Managers are trustworthy, live with integrity, show commitment, enthusiasm, and respect, and have a decisive, action-focused decision-making style. Management holds people accountable for their results by

maintaining clear accountability for performance. Values and strategy are communicated throughout the organisation, so everyone knows and embraces these.

2. *Openness and Action-Orientation*. HPOs have an open culture, which means that management values the opinions of employees and involves them in important organizational processes. Making mistakes is allowed and is regarded as an opportunity to learn. Employees spend a lot of time on dialogue, knowledge exchange, and learning, to develop new ideas aimed at increasing their performance and make the organization performance-driven. Managers are personally involved in experimenting thereby fostering an environment of change in the organization.

3. *Long-term Orientation*. An HPO grows through partnerships with suppliers and customers, so long-term commitment is extended to all stakeholders. Vacancies are filled by high-potential internal candidates, and people are encouraged to become leaders. The HPO creates a safe and secure workplace (both physical and mental), and lays-off people only as a last resort.

4. *Continuous Improvement and Renewal*. An HPO compensates for dying strategies by renewing them and making them unique. The organization continuously improves, simplifies and aligns its processes and innovates its products and services, creating new sources of competitive advantage to respond to market changes. Furthermore, the HPO manages its core competences efficiently, and sources out non-core competences.

5. *Workforce Quality*. An HPO assembles and recruits a diverse and complementary management team and workforce with maximum work flexibility. The workforce is trained to be resilient and flexible. They are encouraged to develop their skills to accomplish extraordinary results and are hold responsible for their performance, as a result of which creativity is increased, leading to better results.

The aforementioned HPO study showed that there is a direct and positive relationship between the identified HPO factors and competitive performance: the higher the HPO scores the better the performance of the organisation, and vice versa. An organization can find out its HPO status by having management and employees fill in a HPO questionnaire and calculating the average scores on the HPO factors.

DEVELOPING THE HPP FRAMEWORK

The value chain concept represents the organization as a central unit in a network of links, with each link improving the value of the chain. Upstream links represent the organization's suppliers and downstream links their customers. Management used to focus its attention on the individual functions within the value chain. However, to optimize the value chain organizations need an integrated approach to managing the chain. Value chain management is defined as the optimization of volumes and values by incorporating cross-functional management concepts and integrated decision making (Schulz et al., 2007). Managing the value chain provides management with specific knowledge to determine how to improve and increase the flow of supplies, products, services and information to the final point, the consumer. This knowledge should be acquired by collaborating with the other parties in the value chain. Effective collaboration includes more

than the exchange of goods and services between the organizations. It also involves continuous improvement of production and distribution processes which requires coordinating joint activities with the partners, with adequate know-how in the organization about the partners' processes and quality management. This in turn requires trust and skills in coordinating joint activities between all parties. Trust is needed because organizations will have to share valuable information on organizational and operational processes. Coordination skills are needed to effectively manage the process of joint continuous improvement. Integration and sustainability of partnerships have this become a necessary condition for successful supply chain management.

Fostering partnerships leads to multiple benefits throughout the value chain. Cost reductions and higher service levels may be expected when, across the value chain, co-ordination and integration of product and process decisions are improved. However, partnerships are costly in terms of time and effort. Therefore it is important to ensure that scarce resources are dedicated only to those relationships in the value chain that will truly benefit from a partnership and to those activities that improve the chances of partnership success. Organizations should in this respect focus on long-term operational integration. Operational integration is a form of cooperation where the business partners have aligned their production processes to acquire higher levels of efficiency. Also, to increase the effectiveness of a relationship prior experience in negotiating partnering arrangements is beneficial.

The terms 'inter-organizational partnership' and 'alliance' are often used interchangeably to describe a wide variety of relationships between organizations. Inter-organizational partnership refers to the collaboration of an organization with partner organizations, which involves the exchange of products and/or services with the expectation to mutually benefit from this relationship. An inter-organizational partnership is characterized by shared goals, a common purpose, mutual respect, willingness to negotiate and cooperate, informed participation (an enriched knowledge gathering process, achieved by encouraging participants to consider multiple perspectives of a given issue, by learning from their peers), and information giving and shared decision making. To function efficiently the partners of a value chain have to collaborate effectively. The success of strategic partnerships is dependent on both the hard and soft side of relationship management. The hard side refers to the structural characteristics 'organizational design' and 'control'. Control could prevent value chain partners to strive solely for personal gain, instead of mutual benefits. Such behavior could cause conflict, and conflict should be avoided as it is found to hold back good performance. Therefore conflict also needs to be looked at. The soft side includes behavioral characteristics like trust, commitment coordination, interdependence and communication. The soft side also includes and the development and management of the socio-psychological (human) capital of the parties involved. Finally, to develop effective (international) collaboration it is necessary to create an organizational environment where diversity is both acknowledged and valued as each partner is different and will bring different traits to the table. Diversity can be both beneficial and disadvantageous for partnership performance and therefore also has to be discussed.

The above mentioned characteristics have all in common that they have significant influence on partnership performance. From this point on these characteristic will be referred to as HPP characteristics, which are defined as: HPP characteristics are characteristics that are related to high performance (partner) relations between organizations. In the next sections, each HPP characteristic is discussed in detail.

Organizational Design

Organizational design is the blue print of an organization's authority and flow of communication and is considered to affect the behavior of organization members. The design of an organization can be described by three different structural variables: formalization, centralization and complexity. Research suggests that higher formalization and higher centralization are key dimensions of inter-organizational relationships. In addition, a partnership should be structured based on the needs of both partners.

Control

In the context of the value chain, control is needed to prevent the display of undesired behavior of the organizations involved. In case of the value chain, control crosses the legal boundaries of the organization itself as it extends to all links of the organization's value chain. Control is required to ensure the success of strategic alliances. It has three attributes: focus, extent, and mechanisms. The first attribute, focus, refers to the scope of activities over which one seeks to exercise control. The second attribute, extent, is the degree to which the organization actually exercises control, in other words the reach of control which could be a particular process, or for example measurement based on individual or team sales levels. Mechanisms, in turn, refer to the means and organizational abilities to exercise control, for example reward systems and systems developed to track individual performance. There are two types of control: formal control and informal control. Formal control consists of high levels of output and process control, examples are formal contracts. The second type of control, informal control, includes the informal organizational cultures and systems influencing the collaboration and the behavior of parties. Examples of informal control are the norms and values embedded in the organizational culture.

Trust

Trust refers to the expectation that a partner will not behave in an opportunistic manner and has the ability to reduce transaction costs by ensuring the true intentions (mutual or individual benefit) of the parties involved. Trust has received much attention in recent literature and has been found to be at the core of good management practices. For example, trust is mentioned to be a prerequisite for the development of high levels of communication needed to facilitate the sharing of knowledge. To foster learning, and continuous improvement, organizations should build a trusting relationship. One way to increase trust is by exploring mutual rather than individual benefit opportunities. The lack of trust would disable the institutionalization of knowledge transferring. There are two different kinds of trust: capability trust and goodwill trust. Capability trust (also referred to as competence trust) is described as the expectation the partner organization has what it takes to perform a task satisfactorily. Goodwill trust (also referred to as intentional trust) refers to the willingness and sincerity of the intention to collaborate. It consists of the expectation the other party will act

in favor of mutual gain, even when this conflicts with that organization's individual interests. Both kinds of trust enhance the possibility of a successfulness partnership. Trust develops over time and the previous history between the partners is a determinant of the future direction of the relationship.

Commitment

Commitment in terms of organizational partnerships is generally defined as the interest in the relation and willingness to develop a long-term partnership. Valuing cooperation and being committed to share responsibility, risk, power and accountability is a necessity for a successful partnership relation. Commitment can be viewed from a formal (economical) or an informal (emotional) perspective. The formal aspect consists of the costs and formal means of maintaining the partnership. Partners could for example use a contract as a tangible expression of their commitment. This contract can partly be perceived as a symbol, or signal of their loyalty and trust towards the collaboration. Simple contracts based on mutuality, trust and commitment to the purpose of the partnership, are essential for partnership success. The informal aspect of commitment refers to the emotional and behavioral ties between the partners. An informal culture and interpersonal relations have been found to increase trust and commitment. There is a strong correlation between commitment and performance in strategic alliances. The level of commitment between partners in successful international strategic alliances is higher than in less successful partnerships.

Coordination

Coordination is the management of important organizational activities and the extent to which partners and their processes are mutually integrated to reduce uncertainties and improve the collaboration and performance. Coordination requires demonstrating effective leadership and management of information with external bodies. Organizations which create clear coordination structures to manage organizational change are the most successful in their supply chain partnership. In a trusting environment a contract may be used to improve coordination. In this context the contract would function as a statement of common goals. Such a contract focuses more on positive notes (how and what to achieve) and should be interpreted as a technical aid in managing the collaboration. Coordination is closely related to the factor interdependence (see next section), as coordination can be enhanced by balancing the level of autonomy within the relationship.

Interdependence

Interdependency is generally defined as the equality of dependence between the partners in terms of investments and resources, and the substitutability of the partnership itself. Interdependence should however not result in excessive formalization and monitoring of the relationship, as this is found to cause conflict and distrust. Collaborations where partners are equally dependent perform better and managers report higher levels of satisfaction, as partners share the same interest and decision power. Inequality between partners is one of the main contributors to partnership failure. So, to avoid inequality between partners, organizations should search for partners that are somewhat similar in terms of organizational characteristics and abilities. Partnerships that equally share power, risk, responsibility, and accountability have been found more successful than those that do not.

Communication

Without any form of communication (face-to-face, letters, e-mail, etc.) collaboration would not be possible. Increasing the quality of communication contributes highly to the success of an organization and its partnerships. When organizations fail to communicate effectively within the value chain this could lead to conflict between the partners and within the organization itself. Especially in the case of international strategic alliances, communication is important, as cultural differences complicate cooperation, caused by differences in for example language (including body language), and expected behavior. Continuous and effective communication is needed to bridge differences and add to the success of the partnership. In addition, communication influences partnership behavior and the ability to respond quickly to changing customer needs as improving the lines and quality of communication shortens partner and market distance. Good communication entails three practices: high quality of information, effective information sharing, and high levels of participation. High quality information includes aspects as the accuracy, adequacy, credibility and timeliness of the information transmitted. High quality of information contributes to the partnership as it reduces misunderstandings, and thereby increases trust. In every part of an organization information is created, gathered, and shared. Thus, the concept of information sharing refers to the extent of information that is exchanged between partners. Effective information sharing increases mutual organizational knowledge and the value of this knowledge to the firms in the value chain. Effective information sharing is associated with trust and commitment. Participation refers to the degree of involvement regarding support activities such as planning, decision making, and goal setting within a partnership. The need for participation increases when partners have the ability to influence one another's performance, and thereby its competitiveness. Clarity about roles and responsibilities are important aspects of participation, and together with joint decision-making and goal formulation they help an alliance to succeed. Implementing good communication practices strengthen the lines and means of communication amongst partners, which will help to settle conflicts of interest and contributes to maintaining effective management within partnerships.

Conflict

Several studies have identified a negative relationship between conflict and partnership performance. There are many causes of relationship conflict, including differences in culture, management style, and operational processes. Often these differences lead to misunderstandings and distrust, with the consequence of reduced cooperation and poor performance. Low levels of commitment, trust, or noise in communication (causing misunderstandings) can all be the cause of conflict. However, the concept of conflict is not solely related to poor partnerships and related poor performance. Joint problem solving of conflicts can enhance the success of a partnership. Managing the external environment together allows a mutually satisfactory solution to be developed. Partnerships that recognize the potential for conflicts and preventing these by developing joint solutions are found to be more successful. Solutions to conflict include: constant feedback and evaluation of performance and processes, a balance of power and systematic resolution of conflicts, because they lower the change of bias, and miscommunication. In the context of a partnership such solutions have to be

implemented cooperatively to increase the efficiency of conflict resolution and understanding. So while conflict itself can have a negative influence on performance, the way partners interact to solve or prevent conflicts from happening can have a positive influence on partnership performance.

Diversity

Everywhere humans interact there is the possibility of miscommunication, caused by noise, or more personal differences like norms, values, and customs. Especially in a multicultural context differences can complicate the relationship. Such situations are for instance global organizations where managers from different nationalities need to work together. Here multicultural groups of managers need to work together effectively, either as enduring management teams or to resource specific projects to effectively manage key business issues. To develop effective (international) collaborations it is necessary to create an organizational environment where diversity is both acknowledged and valued. In such an organization individuals develop cultural awareness and sensitivity to valuing differences. Diversity related problems can leave a permanent mark on overall performance. Therefore diversity management should not be about affirmative action, but about proactive behavior (preventing is better than dealing with the negative effects afterwards). Cross-cultural teams should be trained to recognize and respect cultural differences and use differences to create mutual advantages. Instead of blaming every problem or miscommunication to the concept of culture, it is about valuing and considering the additions to the main process of knowledge development and sharing, and to look to one's own capabilities and contribution to the whole. In this process one should be aware of the simultaneously positive and negative effects of a culturally diverse team.

Summary of the HPP characteristics

Most of the descriptions of the HPP characteristics are derived from the research by Kauser and Shaw (2004) as their measures were internally consistent and had significant explaining power. The draft HPP characteristics and their items are presented in Table 1.

HPP characteristics	Items
Control	- Positive rather than negative control systems are used to control performance - Contracts are based on the mutuality, trust, and commitment to the purpose of the partnership
Trust	- The partners do not take advantage of each other - Each partner can rely on the other partners - The relationship between partners is open and informal - There are strong interpersonal relationships between partners - Partners make real effort to keep promises - Work related problems are shared with the other partners - Partners are trusted to be supportive - Partners are trusted to be sincere

	- Partners are trusted to show loyalty
	- The relationships between partners is marked by a high degree of harmony
Commitment	- The partnership is needed to achieve strategic objectives
	- There is agreement over the goals / objectives of the partnership
	- Partners are obligated to sacrifice short-term interests in order to achieve long-term objectives
	- Partners are patient with other partner over mistakes
	- Partners are obligated to satisfy other partners' needs
	- Partners are obligated to overcome problems
	- Partners are obligated to help build the relationships in the partnership
	- The partnership is valued
	- Staying in the partnership is a desire of all partners
	- Staying in the partnership is a necessity
	- The partnership has a long term orientation
Coordination	- The partnership is characterized by teamwork
	- There is a high level of interaction between the partners
	- Partners keep each other informed about important decisions
	- Decision making is inclusive (i.e. all partners are involved)
	- Partners regularly exchange ideas with each other
	- Partners have created a clear coordination structure to manage organizational change
Interdependence	- Partners are equally dependent on each other
	- Power is shared equally among the partners
	- Partners share accountability
	- Partners share risk
	- Partners share responsibility
	- Partners are somewhat similar in organizational characteristics and abilities
Communication	- Communication between the partners is adequate, complete, credible, accurate, and timely
	- Partners keep each other informed about changes
	- Partners seek other partner's advice in decision making
	- Partners communicate about changing needs
	- Partners jointly participate in goal setting
	- Partners participate in planning activities
	- Partners share proprietary information
	- Partners participate in regular meetings
Conflict	- There is no distrust among partners

	- There are no personality conflicts among partners
	- There are no cultural misunderstandings among partners
	- There are no conflicting goals between partners
	- Integration with other partners is necessary for a solution
	- Problem management has an inclusive approach (i.e. all partners are involved)
Valuing Diversity	- Diversity among partners is managed proactively
	- Diversity among partners is perceived as an opportunity rather than something partners have to cope with
	- Employees of the partners are trained to recognize and respect cultural differences

Table 1: The draft HPP characteristics

THE LINK BETWEEN HPO AND HPP

The HPO factors and HPP characteristics have a lot in common. The difference between the two sets is the contexts they relate to. The HPO factors focus mostly on the internal organization and alignment of internal processes. In contrast, the HPP characteristics focus on successful partnerships, a more external focus. A close relation is obvious as the goals of the organization should correspond with those of the partnership, and in order to have a high performance value chain the internal organization should be internally consistent as well. Thus, the HPO factors and HPP characteristics are both cross- and inter-dependent. Table 2 presents an overview of the relations that exist between them.

HPO factors → HPP characteristics ↓	High Management Quality	Openness & Action Orientation	Long Term Orientation	Continuous Improvement	High Workforce Quality
Control				●	
Trust	●	●			
Commitment			●		
Coordination	●			●	
Interdependence			●	●	
Communication		●		●	
Conflict		●			
Valuing Diversity	●				●

Table 2: Relations between HPO factors and HPP characteristics

The HPO factor high management quality (HMQ) relates to the HPP characteristics trust, coordination, and valuing diversity. Trust, because in a HPO managers are credible, live with integrity, and treat people fairly,

while holding them accountable for their results. In addition, management has trust in the work and capabilities of its employees. Coordination, as coordination is the management of important organizational activities and the extent to which partners and their processes are mutually integrated to reduce uncertainties and improve the collaboration and performance. Coordination requires demonstrating effective leadership. Valuing diversity is related to both the HPO factors high management quality and high quality workforce (HQW), which in this context are closely related. An HPO recruits a diverse and complementary team and inspires its organizational members to accomplish extraordinary results where possible.

The HPP characteristics trust, communication, and conflict are all related to the HPO factor openness and action orientation (OAO). As mistakes are allowed and seen as an opportunity to learn, the latter factor stresses the value of learning by doing. An HPO fosters the level of knowledge and participation by stimulating an open culture where proactive behavior is encouraged. A high level of participation within the organization and partnership stimulates the effective sharing of information. The level of participation is directly related to the level of trust the organization has in its employees and partners. Trusting that their partners have what it takes to execute their tasks successfully, and that these partners are committed to the interests of the partnership, rather than solely their own gain. Having an open culture, fostering knowledge, and stimulating the effective sharing of information all are directly related to the way communication is installed, as communication is the enabler and regulator of such processes. Conflict can lead to misunderstandings and distrust, with the consequence of reduced cooperation and poor performance. Therefore the way conflicts are handled and prevented is directly related to the HPO factor OAO.

The HPO factor long term orientation (LTO) constitutes having a long term commitment. This commitment involves all stakeholders across the value chain, thereby it corresponds with the HPP characteristic commitment. An HPO is committed on managing the supply chain and the value chain as well as the internal organization. To create a successful partnership the interests and goals of the organization should be in line with those of the partnership. Another HPP characteristic that relates to LTO is interdependence. In addition to the alignment of goals, equality extends further than organization goals, it is in the favor of the partnership to have a similar amount of power and resource dependency. This helps to ensure both organizations will act in the favor of the partnership.

The HPO factor continues improvement (CI) is related to the HPP characteristics control, coordination, interdependence, and communication. The HPO factor CI mentions that a high performing organization knows its markets and is able to quickly respond to market changes. Therefore the organization needs to be flexible and most conscious about their core competences. To have reliable information on market demand and performance levels both secure communication and control systems need to be in place. Control is not just a monitoring tool, but also as a tool to influence the processes and outcomes of partner organizations with as goal improvement of performance. In the case of inter-organizational collaboration, control is mentioned to motivate the involved parties to achieve the desired outcomes. In the same context frequent

communications would foster growth. Additionally, when striving for continuous improvement, the organization should have an overview of the whole organization and processes, including their relations to discover how performance can be improved. And as equally dependent partnerships are found to increase overall satisfaction within the organization and enhance performance, both the internal and external organization should be considered when deciding on change. Here, in addition to interdependence, coordination has an essential role. Coordination is described as the management of important organizational activities and as the extent to which partners and their processes are mutually integrated to reduce uncertainties and improve collaboration and performance.

In order to test the HPP characteristics and their relation with the HPO factors, practical research was performed at ATLAS, a consortium of five IT companies. In the next chapter the case study of ATLAS is presented.

DESCRIPTION OF THE ATLAS CONSORTIUM

The ATLAS Consortium consists of five leading IT organizations - HP (formally EDS, the lead contractor), Fujitsu, General Dynamics, EADS Defence and Security Systems, and Logica - that work together since March 2005 designing and implementing the United Kingdom Ministry of Defence's Defence Information Infrastructure (DII) project. The consortium organizations all share major experience in developing and delivering reliable and seamless systems integration, in both the public and private sectors. The ATLAS headquarters are located in Reading, United Kingdom, and over 2800 staff currently works on the DII project. Figure 1 provides the organization chart of ATLAS. The ATLAS Management Board (AMB) consists of the CEO and the Leads from each partner. The ATLAS Leadership Team (ALT) consists of the other functions mentioned in Figure 1.
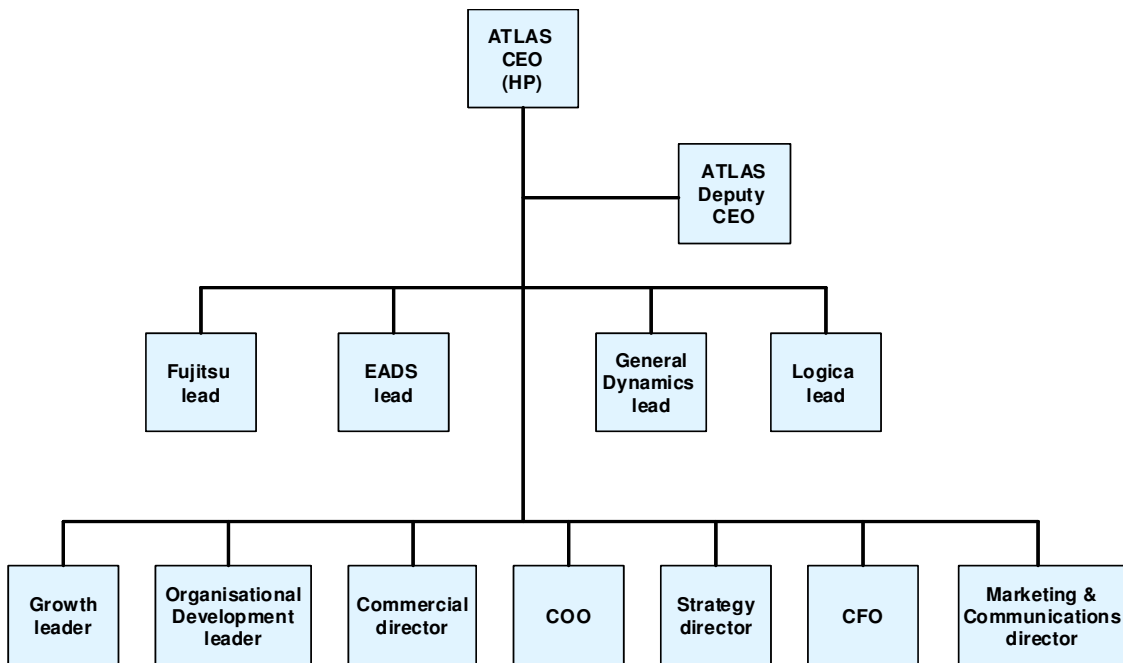
Figure 1: ATLAS' organization chart (Ministry of Defence, 2008)

The vision of ATLAS is to be "the trusted partner of choice for the delivery and integration of information services, enabling the transformation of the Ministry of Defence (MoD) and secure Government effectiveness through the delivery of one information infrastructure.*"* In this vision, the element 'trusted partner' is most relevant as it entails what ATLAS and the MoD value in terms of a relationship: "Information services are unique in that the degree of dependency between a business and its IS supplier is very high and enduring. Hence, for the benefits to be consistently delivered there is a need for trust and a long term relationship based on clear understanding of the business imperatives between all parties." The mission of ATLAS states that the consortium aims "to develop and deliver secure and coherent information services, at minimum whole life cost, in order to enable the Defence Change Portfolio, and Equipment Capability Plans and to achieve the aims of Network Enabled Capability" (Ministry of Defence, 2008).
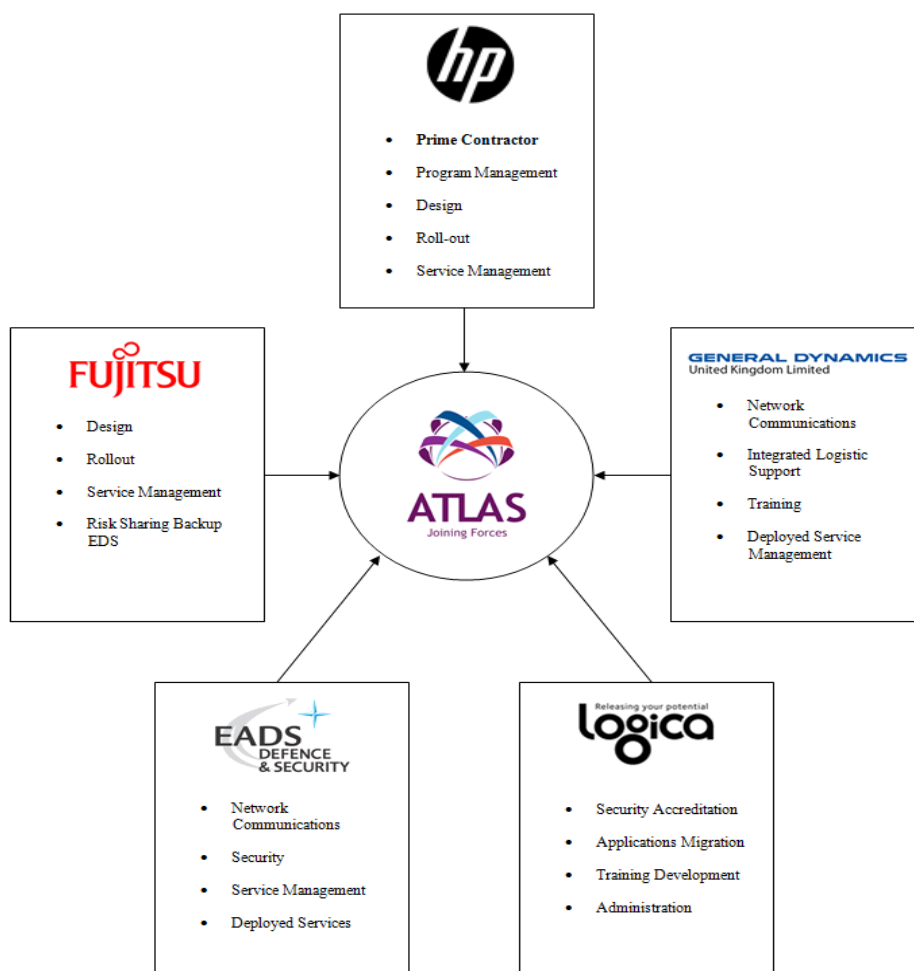

Figure 2: Tasks and responsibilities overview of ATLAS

For the delivery of the DII project, ATLAS maintains a close relationship with the DII Group and the Senior Responsible Owner (SRO) within the Ministry of Defence (MoD). The goal is to advance from a joint to a fully integrated form of working as this would improve both efficiency (through reduced operating costs) and effectiveness (through increased tempo and mutual understanding). ATLAS is set-up as a project organization in which five partners cooperate towards the delivery of the DII project. The partitioning of tasks and responsibility is presented in Figure 2 and described underneath.

HP is the prime contractor and founder of the ATLAS Consortium. Initially EDS was the lead partner of the consortium. EDS, established in 1962, in time evolved from a $1,000 investment into a $20+ billion industry leader with over 136,000 employees. The company was acquired by HP in August 2008. HP is an information services provider with expertise in design, build, rollout and support of large-scale, complex IT projects. The company provides information technology, applications, and business process outsourcing services to both commercial customers and governments. Within ATLAS, HP provides prime contract program management, design, roll-out and Service Management of DII IT Infrastructure. *Fujitsu*, established in 1935, is a Japanese multinational specializing in computer hardware and IT services, including IT consultancy. Fujitsu has subsidiaries and affiliates in over 70 countries and has over 175,000 employees worldwide. Fujitsu profiles itself as a company that "creates cutting-edge solutions based on advanced information technology". The organization has key strengths in large-scale, high availability integration projects, messaging and security systems. Within ATLAS, Fujitsu provide design, rollout and service management of DII IT infrastructure, program management and risk sharing backup to HP as prime contractor. *General Dynamics* is a U.S. defence conglomerate and a world leading specialist in military tactical communications. The company employs approximately 92,900 people worldwide. General Dynamics specializes in business aviation; land and expeditionary combat vehicles and systems, armaments, and munitions; shipbuilding and marine systems; and mission-critical information systems and technologies. Within ATLAS, General Dynamics provide network communications, integrated logistic support, training, and deployed service management. *EADS* (European Aeronautic Defence and Space Company) is a relatively young corporation, formed by the merger of DaimlerChrysler Aerospace AG, Aérospatiale-Matra and Construcciones Aeronáuticas SA on 10 July 2000. The organization has over 118,000 employees. EADS develops and markets commercial and military aircraft (Airbus, Eurocopter, and partner in the Eurofighter consortium), communications systems, missiles, space rockets, satellites (for example: Ariane and Galileo), and related systems, with particular expertise in all elements of information assurance. Within ATLAS, EADS provides network communications, security, service management and

deployed services. Logica was founded in 1969 and merged in 2002 with CMG. Currently Logica employs around 40,000 employees. Logica is the UK leader in information management security, business consulting, systems integration, and IT and business process outsourcing services. Within ATLAS, Logica provides security accreditation, applications migration and training development and administration.

The MoD is both a policy-making Department of State – like any other central UK government department – as well as being the highest level military headquarters in the UK, providing political control of all military operations. It controls resources for the Armed Forces of some £30 billion per year. Within it and across MoD, military and civilian personnel work closely together to deliver Britain's defence. The MoD's vision is to "deliver security for the people of the United Kingdom and Overseas territories by defending them, including against terrorism; and to act as a force for good by strengthening international peace and stability. In the present, contributing to success in Afghanistan and Iraq remains the Department's highest priority. Given the international strategic context in which the UK is required to operate and respond, the MoD has determined that the requirement for deployable, flexible agile and capable Armed Forces will remain crucial, as will the need to prepare for the longer term" (Ministry of Defence, 2008). The DII project is very important to the MoD as it is one of the most complex and biggest single infrastructure project rolled-out to date in Europe, and will help make the MoD more agile by ensuring a more effective environment to securely communicate, collaborate and to share knowledge and information with the 300,000 user accounts on 150,000 terminals (desktop computers, laptops, kiosks for communal areas, etc.) across 2,000 MoD sites worldwide. DII will replace the current system which consists of over 300 individual systems and related support arrangements. DII will make it possible to go from 6000 to 500+ applications accessible through one single secure system. All authorized personnel across the world will have access to the same view of information, making decision making more efficient. Current estimates show that DII will enable the realization of £1.5 billion of efficiency savings across the Defence Change Portfolio, over the 10-year DII contract. In addition to saving costs DII is all about saves lives. For example, when someone is shot on the battlefield the 'golden hour' is activated, which means that this person needs to get back to base to receive medical treatment. With DII it will be possible to immediately adapt the medical treatment to the specifics of this person, so when he or she arrives everything is optimal prepared. This new way of working will save time and therefore lives. Because of the immense importance of DII, the premises of ATLAS resemble the 'look & feel' of a military base. When arriving as a visitor one is thoroughly scrutinised, since the content of the project is strictly confidential and therefore security is a top priority. Illustrative for this is that as a visitor one is not allowed to go to the toilet by oneself but is always accompanied by

an ATLAS employee. Also when walking through the buildings one notices everywhere the emphasis on security and safety, in signs, guards and posters.

HPP RESEARCH AT ATLAS

Interviews were conducted at the ATLAS Consortium, Reading, during two days in September 2009. In total four interviews were held. Each of the interviewees worked within a different part of ATLAS, so partnership performance of the consortium was viewed from different aspects. The teams to be interviewed were chosen in advance by ATLAS, who was informed to pick a high and a lower performing team consisting of employees from the different partners. ATLAS decided to choose a newly established team that was lead differently from the rest of ATLAS and was found to outperform other ATLAS teams (of which three were chosen for the interviews). The goal of the interviews was to identify the items of the HPP framework that caused the newly established team to achieve a higher performance and the other teams to have lower performance. In the next sections the information of the interviews is presented per HPP characteristic.

Control
Overall the control within ATLAS is formal. The teams are all focused on delivering on the contract, and those delivery targets are all formally set. This implies that when a team cannot deliver in time, the team is held responsible. Because the teams are controlled mainly based on their deliverables, they do not easily free up time to help out other teams, which may have a negative influence on overall performance. The participants recognize that because the contracts are set up in a very factual way, this could potentially hinder flexibility and trust. This type of control is not in line with the HPP characteristics that states that positive rather than negative control systems are used to control performance.

Where the consortium is mainly formally controlled, the newly formed team focuses more on informal and social control. An example is trust. The leaders of this team started off clearly saying "we need trust in the team in order to succeed". In practice, if someone does not communicate openly, they are spoken to about this and as a result several people have been removed from the team. Although this kind of social control could be perceived as negative, it is in fact the opposite. The level of trust is not contractually bound. It is informally embedded in the culture instilled by the leadership team. The preferred types of behavior are pro-actively communicated and managed by the leaders. And it is also the way that they have removed the individuals from the team. This has been done in a respectful way. They have helped these employees find other positions, and were happy to have an open and honest dialog about the reasons them being excluded from that team.

Trust
When asked which factors would be important to have a successful partnership all interviewees mentioned trust. However, there is the issue of competitive and commercial interests which always play a role in a partnership. People are not open and honest to the point where they can share all their data. The fact that costs and impact analyses may not be seen by other partners results in ineffective workarounds. Take for

example the process of a change request. Another issue is that the organization often does not act on issues raised. The partners do perceive each other as loyal and supportive, but this seems to be related to the contract and the necessity to deliver on the DII project.

The newly established team differs a lot in terms of trust. From the start it wanted to move away from the culture instilled within ATLAS. It created a space for people to have open and honest dialog. Another aspect of this team, that seems to relate to trust, is teamwork. Working together as a team increased the trust people have in each other. The dependability and sharing of responsibilities increased the perceived accountability of the team members involved. And that also extends to the way team members work with the customer. All meetings are held in an open and honest way. Everyone is put in a room to discuss matters, without any preparations and meetings prior to what was going to be discussed. In addition people trust that when something is highlighted as an issue, action is taken, it is communicated, and it gets delivered. There is care and commitment to get things done.

Commitment

Within ATLAS, staying in the partnership is considered a necessity, which originated from commercial necessity as none of the partners would be able to deliver on the contract by itself. But since the partnership was established, commercial necessity developed into a mutual desire to be part of the partnership. An example of the necessity and desire is that, when EDS was bought by HP, the other partners had a chance to break the contract, but they did not because they had fate in HP's capabilities and they needed this partner.

Overall the interviewees consider the people within ATLAS to be committed to a common goal. However, on the work floor the level of commitment seems to vary. It was mentioned that some of the teams are there clearly for themselves: they want to always deliver, even sometimes at the cost of the needs of other teams. Also the scarcity of time and high work pressures were often mentioned as an obstacle in helping other teams solving their issues. In the case of the well-performing team no issues concerning commitment were mentioned. Commitment is highly valued and requested of the employees in the team. Social control helps ensure that the right people are doing the right job. Sharing responsibilities makes employees more involved and committed to the common goal.

Coordination

Within ATLAS processes are continuously being streamlined but there is no sense of commonality. Therefore, having a common infrastructure, in which people can actually check information without having to rely on corporate systems and their restrictions, is one of the strongest desires of the interviewees. One common infrastructure would solve the need to work around all the different systems of the partners. This would also help people who join the consortium actually becoming an Atlas person soon, as opposed to keeping their corporate identity. The interviewees would like to have one Atlas id badge, one Atlas email address, and one Atlas HR system that they can make use of: one corporate identity they can familiarize with. In addition, the bureaucracy has to be dealt with according to the interviewees. Decision making is done in a cooperative manner but is also inefficient because a change has to be verified by a lot of parties before it is ready to be implemented. The leaders of the newly established team managed to implement some

workarounds, although these are still not ideal. However, the issue is more about the teams' drive to innovate to make the overall process more efficient.

Interdependence
In terms of responsibility, for each of the partners it is clearly defined what they are responsible for to deliver. HP is the prime contractor and the other partners are sub-contractors. ATLAS considers itself a partnership, but in fact it has more in common with a contractual relationship. Power is not shared equally. There are certain functions and roles that are divided between the partners, regulated by the contract, but HP is more represented in the top levels than the other partners. The interviewees do not see this as a problem, as they see leadership to move forward as a necessity. However, in terms of dependability the partners are not equally represented, which could negatively affect the involvement and goodwill of the organizations involved.

Communication
Overall the interviewees share the opinion that ATLAS needs better ways for people to interact. Some feel that the geographical distance between the ATLAS locations is the problem. In any case, people use email instead of face-to-face communication, so they feel they cannot be as open and honest as they want to be. In addition, the number of mails that people receive daily is too much, ineffective and annoying. According to one of the interviewees the solution to improve communications is having more meet-and-greets. However, interpersonal contact is already valued and encouraged by management. The problem seems more associated with the fact that employees report they cannot free up time to act on it and to interact

Another issue is that people do not communicate enough what goes well. People are thinking more about their process and work problems than what they have accomplished. It was even mentioned that some successes were completely forgotten. There is a 'lessons learned' exercise, and one of the major lessons learned is act upon the lessons learned, but this in actual fact does not happen enough. Therefore recently some teams started working in a more collaborative approach which they call 'viral communication'. This entails successes and efficient workarounds to be communicated to the next team in the chain, to share the lessons learned and increase overall efficiency.

The well-performing team has strong communications. For example, there's a weekly broadcast communication, from the leaders to the team, which always starts off with one of the leaders telling a joke. The latter was perceived to add a feel of openness to the session. In addition the leaders have personal meetings with the lower levels. During these meetings the leaders communicate what they think is important to that team, and then get feedback. There is a constant flow of information. The fact that the team is located on one location seems to work to its advantage.

Conflict
Many problem areas are being worked on but there is no overall problem director, every program manages its own problems. It would be better to do this centrally, with more teams involved simultaneously to solve issue, but no one seems to have time to spare. The respondents also mentioned that it can be quite difficult to

raise an issue and see that it is actually acted upon. In addition, problem management often results in a need for change, which commercially can be very hard and difficult to achieve. It therefore keeps getting delayed. On the operational level, people try to work problems out themselves instead of revering to a set process.

The well-performing team has done a lot to prevent conflict. For example, regarding the change processes, they have taken finance out of equation because when money comes in there is naturally going to be lots of debate and delay. So the team purposely looks away from the finances, and says: "Let us first talk about efforts, because that is what we want to agree, and then about money".

<u>Valuing diversity</u>

According to one of the respondents, ATLAS was confronted with a lot of diversity from the start and as a result people could not even agree on the most simple things. But since then ATLAS has come a long way and people start to consider themselves to be as from Atlas instead of from one of the partners. None of the interviewees notices any differences between the employees in terms of work relations and habits anyway. Whether someone is from HP, Fujitsu, Logica, EADS, or General Dynamics, does not matter on the work floor.

DISCUSSION OF THE HPP RESEARCH RESULTS

The HPP analysis clearly shows that the well-performing team differs on many aspects from the way the rest of the consortium's teams are lead. When matching this team with the HPP characteristic, it is conspicuous that the new team exceeds other ATLAS' teams in factors like control, trust, coordination, communication, and conflict. Based on the HPP framework the well-performing team is expected to have higher performance and indeed this particular team outperforms the other ATLAS teams. Based on this finding it cannot be concluded that the HPP factors are the sole factors related to high performance partnerships. However, it can be stated with some certainty that the well-performing team has the most in common with the HPP characteristics. This implies that the HPP framework has the potential to provide organizations with a guideline how to achieve high performance in a partnership.

A few of the factors brought forward as being important for the success of the partnership during the interviews could not be directed to one of the HPP characteristics. One of these factors is how the issues raised by employees are handled. The characteristic 'trust' does mention that in a high performance partnership, work related problems are shared with the partners, and that the partner is trusted to be supportive. In addition the characteristic 'conflict' implies that problem management follows an inclusive approach. And the characteristic 'communication' mentions that the partners should communicate about changing needs. However, none of these factors seems to capture the fact that issues raised should be taken seriously and have a follow-up. In accordance with the interviews the latter is believed to increase trust and commitment, as people feel they are valued.

Something that is not clearly stated by the HPP characteristics is the role of leadership. The success of the partnership is dependent on how the leaders manage the relation. Therefore, the HPO factor Quality of Management seems to be also important for the management of the HPP.

Another influence is the location. Several interviewees mentioned the importance of being able to have face-to-face communication. The HPP characteristic 'trust' does mention that there should be strong interpersonal relationships between the partners, and the characteristic 'coordination' indicates that there should be a high level of interaction between the partners. However, the importance of actual face-to-face communication of teams and individuals, and perceived distance, which could potentially harm the openness and honesty, and thereby the adequacy, completeness, credibility, and accuracy of information, remains untouched by the current HPP characteristics and should be added to the set of HPP characteristics. This gives the final set of HPP characteristics (Table 3).

HPP characteristics	Items
Control	- Positive rather than negative control systems are used to control performance - Contracts are based on the mutuality, trust, and commitment to the purpose of the partnership
Trust	- Partners do not take advantage of each other - Each partner can rely on the other partners - The relationship between partners is open and informal - There are strong interpersonal relationships between partners - Partners make real effort to keep promises - Work related problems are shared with the other partners - Partners are trusted to be supportive - Partners are trusted to be sincere - Partners are trusted to show loyalty - The relationships between partners is marked by a high degree of harmony - Issues between partners are taken seriously and have a clear follow-up.
Commitment	- The partnership is needed to achieve strategic objectives - There is agreement over the goals / objectives of the partnership - Partners are obligated to sacrifice short-term interests in order to achieve long-term objectives - Partners are patient with other partner over mistakes - Partners are obligated to satisfy other partners' needs - Partners are obligated to overcome problems - Partners are obligated to help build the relationships in the partnership - The partnership is valued - Staying in the partnership is a desire of all partners

	- Staying in the partnership is a necessity
	- The partnership has a long term orientation
Coordination	- The partnership is characterized by teamwork
	- There is a high level of interaction between the partners
	- Partners keep each other informed about important decisions
	- Decision making is inclusive (i.e. all partners are involved)
	- Partners regularly exchange ideas with each other
	- Partners have created a clear coordination structure to manage organizational change
Interdependence	- Partners are equally dependent on each other
	- Power is shared equally among the partners
	- Partners share accountability
	- Partners share risk
	- Partners share responsibility
	- Partners are somewhat similar in organizational characteristics and abilities
Communication	- Communication between the partners is adequate, complete, credible, accurate, and timely
	- Partners keep each other informed about changes
	- Partners seek other partner's advice in decision making
	- Partners communicate about changing needs
	- Partners jointly participate in goal setting
	- Partners participate in planning activities
	- Partners share proprietary information
	- Partners participate in regular meetings
Conflict	- There is no distrust among partners
	- There are no personality conflicts among partners
	- There are no cultural misunderstandings among partners
	- There are no conflicting goals between partners
	- Integration with other partners is necessary for a solution
	- Problem management has an inclusive approach (i.e. all partners are involved)
Valuing Diversity	- Diversity among partners is managed proactively
	- Diversity among partners is perceived as an opportunity rather than something partners have to cope with
	- Employees of the partners are trained to recognize and respect cultural differences
Location	- Employees of the partners have regular face-to-face communication
	- Partners are located on the same premises (or close by)

	- Employees of the partners regularly visit the premises of other partners
Management quality	- Management of the partners proactively manage the partnership
	- Management of the partners effectively manage the partnership
	- Management of the partners is focused on achieving the goals of the partnership

Table 3: The final HPP characteristics

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